Child Home Care Allowance and the Transition to Second and Third Births in Finland

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Abstract: In this paper, I study the relationship between the use of the child home care allowance and second and third births among women aged 19-44 in Finland. I use register data from the Finnish Census Panel (FCP) on 254,465 women who had a first or second child during 1993 to 2007. I apply discrete-time event-history analysis to examine whether women using the child home care allowance while their previous child was under the age of three have a higher risk to proceed to subsequent childbearing – second and third births – than those not using the allowance while their previous child was under the age of three. The analysis is conducted separately for second and third births. The results show that the use of the child home care allowance has an effect on the risk of subsequent child, and that women using the child home care allowance have a higher risk of having a second and a third child than women not using the allowance. Also, the risk of having a second child is found to be higher than having a third child. According to the findings, timing matters. There are differences in how soon women get their subsequent child, and not only whether they get a second and third child or not. These differences are not explained by the control variables. However, the analysis does not demonstrate any causality between the use of the allowance and subsequent childbearing. The impact of the use of the allowance on childbearing may be due to selection effects.

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Table of Contents

Introduction........................................................................................................................................3
Literature Review..............................................................................................................................4
Child Home Care Allowance in Finland..........................................................................................16
Data and Variables...........................................................................................................................21
Method.............................................................................................................................................26
Results.............................................................................................................................................28
Discussion.......................................................................................................................................37
References.........................................................................................................................................43
Appendix............................................................................................................................................47
**Introduction**

Finland, as the other Nordic countries, has higher fertility than many other Western countries, although its fertility rate is below the replacement level (defined as total fertility rate – TFR – 2.1). Therefore, Finland, like many of its Western counterparts, will face problems with its aging population – accompanied by a decrease in the share of people of working age and difficulties in maintaining the social services associated to a welfare state – in the future. The generous family policies are likely to be a part of the reason for Finland not being one of the European countries with lowest-low fertility (defined as a TFR at or below 1.3) (Neyer 2003; Rønsen 2004).

An important component of Finland's family support is its child home care allowance. It is a benefit paid to a parent with a child under the age of three who does not use publicly financed childcare services. However, the child home care allowance – which is a smaller amount than the maternity allowance or a salary from full time work – cannot be combined with full parental or adoption benefits. The purpose of the child home care allowance is to provide parents with the opportunity of spending more time with their children and more flexibility in combining paid work and childcare. The policy may, however, also lead to increased childbearing. Although the policy was intended to be gender neutral, the allowance is used almost exclusively by mothers who stay home to take care of the children. It reduces their labor market attachment and may therefore reduce the opportunity costs of having another child.¹

Based on a 10 per cent sample from population registers this paper explores the relationship between fertility and the use of the child home care allowance in Finland during the period of 1993-2007. I will examine whether the users of the child home care allowance have a higher risk to proceed

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¹ Because of the negative association with employment, the allowance has been referred as a woman trap (Aassve and Løpegård 2009; Sipilä, Repo and Rissanen 2010). I return to this issue in the discussion.
to subsequent childbearing – second and third birth – than those not using the allowance. Also, I will investigate potential differences by education in the effects of the child home care allowance on the timing of the next birth. I will separately study the overall effects and the timing differences.

To date there is only one study, by Vikat (2004), on this topic from Finland. However, in this study I use different measurements and better data than Vikat, which leads to different results regarding the timing effects. Therefore, this study increases the information available from previous research on the relationship between child home care allowance and the timing of fertility in Finland. Also, this study contributes to the research-based knowledge of the effects of family politics in general, and not only in Finland.

**Literature Review**

How to organize the care of children in relation to employment is one of the decisions families encounter. The theory of the allocation of time by Becker (1965) provides a model for the decision making process within the family in regard to the division of labour among household members. It applies also to the most common way to use the child home care allowance: to allocate time to care for one's child and to receive a monetary benefit rather than to allocate time to market work and place one's child in public childcare.

The theory implies that a household – referring to a family – is seen as one unit: what is best for the family is best for the individual members of it. Consequently, the household members who are relatively more productive at the market would spend less time at consumption-related activities in comparison to other members (Becker 1965:512). Thus, Becker (1965) argues that the allocation of time of any household member is to a large extent affected by the opportunities available to the other members. The theory of the allocation of time can be considered as essential for understanding how
decisions – including those regarding the use of the child home care allowance – are made within the family: the well-being of the children is likely to be important for all decision makers in the family and, therefore, one could expect to find some consensus in the decisions regarding the care for the children. Moreover, Becker (1965) states that childcare appears as a time-intensive activity, which means that it is not productive – when measured by earnings – and it takes a lot of time that could be devoted to paid work. Based on this statement one may expect the people with lower income to be more likely to use the child home care allowance.

Also statistics from Norway, Sweden and Finland show that immigrant women as well as women with lower income – including those not currently in paid employment as well as the part-time working women with low wage – comprise a large share of the users of the child home care allowance. These statistics are in line with Becker’s economic theories: “Unemployed workers not only have lower incomes but also lower forgone costs, and thus lower relative prices of time and other earnings-intensive commodities” (Becker 1965:509). Therefore, the propensity of unemployed parents and parents working part-time to engage in other than earnings-related activities, including family work, is higher than those employed.

Becker’s (1981) economic theory can be used to explain the division of the use of the child home care allowance by gender, at least in regard to users who are not single. The economic theory highlights the utility of specialization and the division of labour between the partners in a household. However, it is a common assumption that women are better and have a comparative advantage in domestic labour whereas men have it in the labour market (Becker 1981). Therefore, when the husband and wife specialize, one in the labour market and one in domestic labour, they benefit by being together. The level of the benefit depends on the characteristics of the partners and, therefore, differs between households.

Also Oppenheimer (1997) comments on the validity of Becker’s argument in its entirety in
modern times. She (Oppenheimer 1997:432) states that the participation of women on the labor market increases as a result of economic growth and the increasing wages created by the growth: as a response to this, the specialization of women decreases and they become more independent in economic terms. However, according to the findings from Oppenheimer's analysis, this has not affected significantly the formation of marriage, and its desirability. Also, as Andersson (2000:321) points out: “In the New Home Economics, as summarized by Becker (1980), it is actually the female wage, seen in relation to male wages, that is predominantly assumed to display a negative effect on the demand for children.” However, this also depends on the family policy in the country.

The negative relationship between fertility rates and women's labor participation reversed and became positive by the end of 1980s (Adsera 2005:189). Countries with high female labor participation used to have low fertility but now it is the opposite, both at micro and especially at macro level. Thus, one may argue that assumptions made on Becker's theory do not apply anymore: because fertility has declined in modern societies as women's participation on the labor market has increased – and the relationship is now positive – one could assume the availability and the use child home care allowance to contribute to further childbearing, by providing economic support as well as the right to return to one's previous job after using the allowance.

It is debated whether the child home care allowance is a cause for further, and faster, childbearing. It could also be that women who have a greater preference to stay home focusing on the family and the care of children take advantage of the allowance – possibly leading to further childbearing – and these women would have children sooner in any case. This implies that the effects of the allowance on fertility may actually be due to selection (Lappegård 2010); that is, the users of the allowance may be women who are, overall, more prone to have children.

So, it is not only important to consider who uses the child home care allowance but also to think about the determinants of childbearing when considering the effects of the allowance on fertility. As
Berninger (2011:6) states, culture, economy, and policy are the context fields that affect childbearing decisions. These are also the main factors influencing the use of the child home care allowance, which implies that the determinants of fertility and using the allowance are closely related. Also, according to Becker (1981), along with the increased education and labor market participation of women the high opportunity costs of childbearing for highly-skilled mothers in particular have contributed to decreasing tendency to have children. Thus, if those who use the child home care allowance are the same women for whom the opportunity costs of childbearing are low, or who are more family-centered in their preferences, then one would expect no true effect of the allowance: any relationship between the allowance and fertility would be spurious, due to underlying common causes.

As mentioned, in addition to economic rationing also individual preferences play an important role in the decision making regarding the use of the child home care allowance as well as childbearing in general. The preference theory by Hakim (2000) is a relatively new multidisciplinary, but mainly sociological, theory explaining the choices of women between market work and domestic work. Hakim (2002) states that the theory can be applied in all rich modern societies. According to the preference theory, once genuine choices are available for women, they choose between three different lifestyles: home-centered, work-centered, or adaptive (Hakim 2002:434). According to Hakim (2002) these disparate preferences appear at all educational levels and in all social classes; although, she notes that the population is heterogeneous, and that everybody does not react the same way.

First, adaptive women’s, generally being the largest group, preference is to combine market work and family work in a balanced way (Hakim 2002, 434). So, neither employment nor family is given a fixed priority and these women often work part-time. The adaptive women may be considered as most reactive to incentives. Second, work-centered women are a minority. The focus of work-centered individuals, both men and women, is on competitive activities in the public field, such as career, sport, politics or arts (Hakim 2002:435). Time for family is given in the terms of work life, and
a large part of work-centered women stay childless, regardless if they are married. Third, home-centered women, also a minority group, prefer to prioritize home and family life after they have married. These women are most prone to have larger families, and they wish to avoid market work after marriage, with the exception of cases of (acute) economic need (Hakim 2002:437).

According to Hakim (2002) only a minority, about 10-30 per cent, of women are work-centered whereas a majority of men are work-centered. This explains at least partly why such a large share of the users of the child home care allowance is women while men’s share is extremely low. As Hakim states, “in prosperous modern societies, preferences become a much more important determinant, maybe even the primary determinant of women’s employment patterns” (Hakim 2002:439). Therefore, the impact of preferences as a common determinant of using the child home care allowance, and of further childbearing, should ideally be taken into account when comparing the fertility timing in regard to the second and third child among women using the child home care allowance and women not using it. So, the results observed on childbearing may be an impact of those using the allowance being a selected group of women with certain preferences; or, as it appears in Finland, those not using the allowance may be the selected group. However, I cannot show any preferences or test Hakim’s theory with the data used in this study.

Also several others studies, Sipilä et al (2010) among others, have pointed out the significance of parent’s preferences, their ideas of parenthood, and cultural values in affecting the parent’s choice of what form of childcare to use, and whether or not to use the child home care allowance. This is in line with Hakim’s (2000) preference theory which highlights the importance of preferences in women’s choices regarding employment and family life. She states that “there is already substantial evidence that attitudes, values, and life goals have important impacts on outcomes in adult life for men as well as women” (Hakim 2002:433). Also this argument can be seen to imply that there is certain selectivity, thus women choosing to use the child home care allowance may consist to a great extent of a selective
group of individuals with certain preferences regarding family values which is likely to affect the childbirth outcomes.

However, Hakim is harshly criticized for stating the preferences to be rather stable over a person's lifetime, for not considering the influence of institutional factors on preferences, and for assuming that a free choice exists (McRae 2003; Vitali, Billari, Prskawetz and Testa 2009). Also, a main criticism of Hakim is the causality linkage that is “whether heterogeneous preferences are actually causing heterogeneous behaviour” (Vitali et al 2009:417). Also, lifestyle preferences may be an outcome of fertility rather than a cause of fertility (Vitali et al 2009:436). McRae (2003:318) highlights the importance of understanding the constraints that affect women and their personal preferences in different ways. Therefore, what Hakim defines as preference might be an outcome of the lack of public childcare for instance.

Aassve and Lappegård (2009) state, in line with Hakim's arguments, that there is reason to expect for those using the cash-for-care benefit (CFC) – as the child home care allowance is referred to in Norway – to behave differently in regard to childbirth, and that the preference for parental care is greater among mothers using the CFC. (Aassve and Lappegård 2009:72). “These mothers also differ in their family orientation, and in so far as there is a positive correlation between family orientation and overall fertility we should observe, all else equal, that cash benefit recipients have their next child more quickly” (Aassve and Lappegård 2009:72). This is to say that women who prefer to care for their children themselves would decrease the spacing between subsequent children in order to take advantage of the duration of the leave. This argument is based on the economic benefit of CFC: “The cash benefit provides an increase in disposable income and assuming children are a normal good, it will reduce the cost of children and thereby increase fertility (Aassve and Lappegård 2009:72). Also, if a woman gives birth to her child within two years from receiving her previous child the CFC could serve as an available source of alternative income up to four years (Aassve and Lappegård 2009:72).
Moreover, Lappegård and Rønsen (2005) argue that women’s preferences towards family and work may differ depending on their educational choices. “Family-orientation and work-orientation are not necessarily opposites: Some women might have high aspirations for both a family and a work career” (Lappegård and Rønsen 2005:47). They state that the opportunity costs of leaving the labor market due to childbearing are to be compensated to some degree if one wants to have both, a family and a work career. In modern welfare states, social policies targeted towards working mothers – including also the child home care allowance – reduce the need of compensation thereby leading to commitments for family life and labour market participation of women becoming more compatible (Lappegård and Rønsen 2005:47).

Nevertheless, the effect of family policies may differ based on women's educational level and field: “Long parental leaves and generous family benefits may fit better with a career track in certain jobs, and may thus be perceived to reduce the opportunity costs of childbearing more for some women than for others” (Lappegård and Rønsen 2005:47). They also argue that women within such fields where becoming well-established on one's career track takes more time and where the disadvantages of an absence from the labour market are greater will thereby delay childbearing longer than women not within these fields (Lappegård and Rønsen 2005:36). Consequently, when these women finally have children they are likely to have them in a shorter time period because they have less reproductive time left.

Vikat (2004) examines the influence of women's labor market attachment, earnings and use of child home care allowance on childbearing in Finland by using a 10 per cent sample from a longitudinal register data set representing the total female population of reproductive age in Finland during 1988-2000. The study finds that a woman's earnings and economic activity have positive impact on the entry into motherhood and, to a lesser extent, giving birth to a second child in Finland. These findings support Vikat's Nordic pattern hypothesis according to which there is a common pattern of
family formation in Nordic countries: “It was clear in this study and in earlier ones on Sweden and Norway that women in the labor force have a higher propensity to become a mother than non-active women” (Vikat 2004:201). The study also finds a weak relationship between a woman's unemployment and childbearing risks on the whole, and that parity-specific fertility trend in Finland is not greatly impacted by variations in the composition of female population by activity and income (Vikat 2004:201). Thus, the impact of a change in female population distribution by economic characteristics on childbearing trend in Finland was minor in regard to the roller-coaster economic development of the country (Vikat 2004:177).

Moreover, the study finds that the use of child home care allowance is related to an increased third birth risk but the risk of second birth does not differ by the take-up of the allowance. Vikat (2004:203) argues that the higher likelihood of those using the child home care allowance to have a third birth may be mainly due to that “women who are relatively child and family oriented opt for HCA as a part of their plan to have a third child” (Vikat 2004:203), and that the possibility to stay at home with one's young children can be expected to be consistent with traditional family values. According to Vikat (Vikat 2004:204), not finding any relationship between the use of the child home care allowance and the risk of second birth may be due to the fact that giving birth to a second child is the governing behavior for mothers with one child, and there may not be much space for the impact of the allowance use.

However, there are some methodological issues due to which Vikat's results may not be entirely compatible with other studies. For instance, in his study students are defined as individuals studying full-time in an education institution and who are not employed (Vikat 2004:188). However, this definition excludes many students because it is very common in Finland for students to be employed and work part-time while engaging in full-time studies. Also, when measuring earnings in the study the

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11

2 HCA is an abbreviation Vikat uses for the child home care allowance.
amounts of the taxable social benefits are subtracted from the total taxable income. Because the measurement differs from many other studies (such as a study by Andersson, 2000), one should be careful when making comparisons to other studies and generalizations based on the results from Vikat’s study.

The risks of second and third birth presented by Vikat “are relative to women whose youngest child is 28 to 29 months old and who did not receive HCA in the previous calendar year” (Vikat 2004:197). Limiting the reference group of women not using the child home care allowance in this way is likely to affect the results. Also, the measurement of the child home care allowance is based on “[t]he information on whether a woman received HCA is used as an indicator of having taken up this additional option some time during a calendar year” (Vikat 2004:189). This differs from the variable measuring the use of the allowance constructed for my analysis, which is based on any previous use of the allowance when the child was of eligible age.

Haataja (2005) points out, in line with Becker's theoretical arguments, that there was a rather strong connection between the mother’s potential earnings and the choice of child care at home in Finland at the turn of 1990s. Also, as Ilmakunnas (1997) states, the lower the potential wage is the higher the likelihood to choose child home care becomes. According to Berninger (2011) the child home care allowance should be sufficient enough to replace the lost wage for workers with low income. Moreover, she argues that “the loss of human capital due to a three year-absence from work might not be crucial in poorly paid jobs” (Berninger 2011:10). Correspondingly, as Sipilä and Korpinnen (1998) point out, parents who are not in paid employment may understandably be more interested in cash – in the form of the child home care allowance – than in daycare of their children. This argument is illustrated by the fact that during 1991-1993 the total number of daycare places used by children aged 0-2 decreased by 26 per cent in Finland, and this was a time of increasing unemployment (Sipilä and Korpinnen 1998).
Also, Aassve and Lappegård (2009:72) state that the impact of the income attained through the use of the CFC is greater for mothers with low earnings because it is perceived as relatively large by them in comparison to women with higher income. Because the allowance is a fixed number per child mothers with low income, thereby with lower opportunity costs, may regard the CFC as more attractive and are, therefore, more likely to leave the labour market and take care of their children at home instead (Aassve and Lappegård 2009:72). Moreover, as Aassve and Lappegård (2009:72) point out, for those who would have stayed at home any way, the CFC benefit results in an increase in the disposable income, but in the logic that the subsidy has an income effect for working mothers, the extent of the impact is dependent on the income level of the mothers. This applies not only to current but also to future income: with a steeper income curve a greater loss of work experience leads to higher opportunity costs. Also, people with lower education level tend to have lower earnings than higher educated. Therefore, the child home care allowance is more attractive to people with lower education, and women with lower education have higher probability to use the CFC; whereas those with higher education are expected to have lower probability to use the CFC, as they see the allowance as less significant or less attractive (Aassve and Lappegård 2009).

The study by Aassve and Lappegård (2009) examines the questions of who uses CFC and do couples using it behave differently in regard to their timing of fertility. Their findings show that there are considerable differences in who tends to use the CFC as well as in the impact of CFC on fertility timing. Overall, couples in which the mother has low educational level and lower earnings have also the highest likelihood of using the CFC (Aassve and Lappegård 2009:87). The findings indicate that the use of the CFC is positively related to birth timing, in particular to proceeding to second birth in the first periods during which the couples use the CFC, meaning within two years following the first birth. The results – after controlling for selection by particular types of people – also show considerable impact on third births, although naturally in a smaller extent. Although, the study does not measure
completed fertility and, therefore, it does not prove whether the CFC results to greater overall fertility (Aassve and Lappegård 2009:87).

Also another study by Aassve and Lappegård (2010) analyzes the Norwegian CFC policy and its relation to Norwegian women's fertility decision making in terms of having a second child. By using information from Norwegian registers – which provides information about education and the fertility timing – the study concentrates on the CFC policy implemented in 1998. The results show that the acceptance of CFC benefits and consequent birth timing were greatly affected by the educational attainment of the women.

Based on their findings Aassve and Lappegård (2010) conclude that couples chose different strategies regarding work, childcare, and fertility. The women associated with a home scenario – referring to those using the CFC for the longest time possible – progressed more rapidly to a second birth than did others. This finding may be interpreted in line with Hakim's preference theory. However, the women associated with a work scenario – referring to those not using the CFC – progressed much later, while the ones associated with a mixed scenario – those using CFC for a shorter period – were less probable to progress to second birth in the close future, though more probable later on. However, couples associated with the mixed-scenario “may have returned to work as a means to reestablish eligibility for parental leave benefits before having a second birth” (Aassve and Lappegård 2010:149). Again, although the policy seems to have contributed to sooner birth timing, it is unclear whether the policy has raised the overall fertility rates (Aassve and Lappegård 2010).

Traditional economic arguments would imply, as Aassve and Lappegård (2010:151) state, that women who are highly educated would prefer not to use the CFC – as a means to – due to the high opportunity costs. However, according to their findings this is not necessarily true. They argue that some mothers possess a strong preference to care for their children by themselves, regardless of having a high education (Aassve and Lappegård 2010:151). Moreover, for working women the CFC may act
as an extension to the paid parental leave and lead to a prolonged absence from the labour market after the childbirth (Aassve and Lappegård 2010:151). Based on this argument one may expect to find also a number of high educated women to use the child home care allowance and to give birth to a subsequent child rather soon.

According to the results from the study it is obvious that couples in which the mother is low educated, the CFC benefit generates a greater contrast in the timing of childbearing than among other groups (Aassve and Lappegård 2010:165). According to the authors this could be seen a result of women with higher education often prolonging the onset of childbearing, and thus progressing more quickly on having the subsequent child. The analysis does not demonstrate any causal impacts of the CFC policy on the timing of second births, although it is obvious that couples' responses to the policy differ in many ways, both in regard to childcare options and to the timing of childbearing (Aassve and Lappegård 2010:165).

In addition, a study by Lappegård (2010) explores the relationship between family policies and fertility behavior in Norway. It concentrates on three policies: the parental leave, public childcare, and CFC benefit. Administrative register data from the period 1999-2004 is used in the analysis. On the basis of a discrete-time hazard model the study analyzes the relation of couples' individual use of parental leave, availability of public childcare in the municipality, and the implementation of the CFC benefit to further childbearing among couples with one and two children. Based on the results the author concludes that the responses of couples to different policies differ in relation to fertility outcomes.

The study (Lappegård 2010) finds that the implementation of the CFC benefit has affected most on the intensities of third-births. Moreover, it may be that low coverage of public child care implies to regional differences in the preference for child home care, but when considering the generally high preferences for subsidized day care in Norway, the low coverage probably implies that the supply does
not meet the demand (Lappegård 2010). The study does not find any considerable correlations between the availability of public childcare and continued childbearing. Lappegård (2010:105) also states that the analyses do not mean causality, and the users of the CFC could be a selected group of parents having greater preferences for children in general.

To summarize, according to previous research important factors affecting the decision of using the child home care allowance are related to economics, income, employment status and employment history. But also lifestyle preferences, values, educational level, social policies and the availability of public childcare services are major factors affecting the decision making regarding the use of the child home care allowance as well as childbearing in general. The allowance is mostly used by women, and it is especially women with lower income who take out the allowance. However, some women use the allowance for a relatively long time as an extension to the parental leave; some may use it as a bridge during the time before the next child is born, whereas some return to the labour market after only a very short period of using the allowance. However, everyone who uses the child home care allowance, even for a very short period of time, is considered as a user of the allowance. The findings from previous research indicate rather clearly that there are timing differences, meaning that those using the allowance proceed more quickly to consequent childbearing than those not using it.

**Child Home Care Allowance in Finland**

Finland had a fertility rate of 1.87 in 2010, and the rate had then been increasing for eight years in a row (Official Statistics of Finland 2011). Figure 1 by OSF (2010b) illustrates the TFR of Finland since the beginning of 20th century. It shows the trend typical of many Western European countries with a high TFR after World War II and the decrease following the baby boom. Since the mid-1970s the rate has been relatively stable varying approximately between 1.6 and 1.9. The figure also shows that the
fertility rate started to increase in the late 1980s shortly after the introduction of the child home care allowance. In Finland the increase continued during the 1990s recession while in Sweden, for example, the TFR decreased during the 1990s recession and has in general been more pro-cyclical.

Finland belongs to the group of Nordic countries that are classified as universalistic type of welfare state (see Esping-Andersen 1990 for the terminology) with rather generous family policies. The child home care allowance, which is a significant feature of Finland's family policies, was instituted already in 1985. The main aim behind the child home care allowance is to increase parents' flexibility in combining work and childcare as well as to allow them to spend more time with their children. Finnish political parties have long had – and still have – disagreement and varying opinions about the allowance. Consequently, there were changes in the policy in the 1990s as the amount of the benefit was reduced. However, the child home care allowance has turned out to be very popular in Finland. This has lead to a situation in which over 50 per cent of children of eligible age for the allowance are taken care at home and, consequently; the share of children in publicly financed daycare is relatively modest in comparison to other Nordic countries (Sipilä et al 2010:50-51).

The most significant characteristic of the child home care allowance, from the social political perspective, is its universalism: all parents are allowed to take up the basic allowance (Sipilä et al
The Finnish allowance is payable for each child under the age of three after the parental leave; parents are not entitled to get cash benefits when receiving full parental or adoption benefits. Kela – the Social Insurance Institution of Finland – provides a variety of parental leaves, such as maternity allowance, paternity allowance, and parental allowance which may be paid for the parent looking after the child. The amounts of these three allowances are calculated similarly. The amount is normally connected to previous taxable income and depending on one's status – working, studying, sick or unemployed – as well as fluctuations in income (Kela 2010). No matter what, all parents taking the leave are entitled to a minimum rate of 22.13 euros per day (Kela 2010). The parental leave may be taken after the maternity leave. During the parental leave, a parent is provided a parental allowance for 158 working days, which is slightly over half a year (Kela 2010). Thus, the child would be about 9 months old when one's entitlement to the parental allowance is over.

The Finnish child home care allowance is a taxable benefit and it cannot be combined at all, among others, with parental leave, private day care allowance, unemployment or long-term sickness benefits. Although, parents may be eligible for the allowance while receiving maternity, paternity, or parental allowance – depending on the amount of the allowance – in case they have another under school-aged child who is not using municipal day care (Kela 2010). The child home care allowance consists of two parts: the basic flat rate allowance – 314 euros per month in 2009 – is given separately for each child with eligibility for it, and a means-tested amount – at maximum 168 euros per month in 2009 – which depends on the income and size of the family (Sipilä et al 2010). The allowance also includes a sibling supplement – between 60 and 90 euros per month in 2009 – which is provided for the family’s other children under school age who are cared in similar fashion. The allowance is available for the parent, or other guardian, having the main responsibility of looking after the child (Kela 2010).

Moreover, every sixth Finnish municipality pays an additional supplement of which the amount varies between 70 and 250 euros per month for one child (Sipilä et al 2010). According to Sipilä et al
some municipalities provide their own supplements to the residents of the municipality in order to reduce the demand for childcare services. The fact that some municipalities, but not all, provide these supplements is said to generate inequalities and unpredictability among families with young children in Finland, in addition to that some municipalities require those receiving the supplement to have a job to return to (Sipilä et al 2010:49).

The statistics from Finland and Norway show that about 95 per cent of the child home care allowance is used by mothers. Less than 10 per cent of men have used the child home care allowance in Finland whereas over 50 per cent of the mothers remain at home until the child turns 2 years (Sipilä et al 2010). Moreover, as Sipilä et al (2010) among others state, the majority is low educated, have had temporary employment and problems returning to the labour market afterwards.

An important aspect of the child home care allowance is related to the right to keep one’s job while using the allowance. In Finland a parent using the full child home care allowance is entitled to keep his or her job while taking the allowance and caring for one’s child at home. This can be seen as a factor encouraging the use of the allowance. Also, if one gets two children within three years the person is allowed to keep maternity, paternity or parental allowance at a level calculated based on the income according to which a previous allowance was calculated (Kela 2010). This applies if one is expecting, or adopting, a subsequent child and the expected date of delivery, or adoption, is before the third birthday of the previous, or alternatively before the date when three years has passed since one assumed care for an adopted child. This can be considered as a factor that is likely to encourage further childbearing in a shorter time among those using the child home care allowance in comparison to those not using the allowance in Finland.

In contrast to the Finnish allowance, the Norwegian CFC – a non-means tested, tax-free benefit – does not have a work return guarantee meaning that those who were employed before the child was born and withdraw from the labour market when taking the CFC, are not guaranteed the return to one’s
own, previous, job after the CFC-period (Schøne 2005). This could be assumed to result in a lower number of parents with high income and high education to use the CFC in Norway, thereby increasing the proportion of parents with low income using the CFC, in comparison to Finland. Also, in Norway the benefit is not paid for children under 1 year because at that time it usually coincides with the parental leave, and in Norway – as in Finland – parents are not entitled to get cash benefits when receiving full parental or adoption benefits (Skevik 2003:25). It is important to consider this kind of structural aspects on the child home care allowance – as well as on other family benefits – when assessing the Norwegian results about the use of the allowance and further childbearing, and particularly when comparing them to Finland. Considering the institutional differences is even more important when making suppositions based on the Norwegian CFC about the relationship between fertility and subsequent childbearing in Finland.

The structural differences presented here may lead to different outcomes in the fertility timing. For instance, in Finland, by combining different family leaves and allowances, it is possible for a mother to stay home up to three years (Berninger 2011:8) and still have the right to return to her previous job. Also, as stated earlier, the human capital lost due to a three-year absence may not be as significant for poorly paid jobs; and this often applies to individuals with lower education thereby making the child home care allowance assumably even more attractive to those with low educational level in Finland than in Norway. On the other hand, because the Norwegian CFC system does not include a work return guarantee, the opportunity costs are higher for women with higher education in Norway than in Finland.

Moreover, it should be noted that the availability of public child care is better in Finland than in Norway. In Finland all children under school age are entitled to municipal day care after the parental leave period. Whereas in Norway no entitlement for care exists before school age, meaning the age 6 (Holland 2011), and the demand for public day care exceeds the supply (Lappegård 2010). Thus one
may conclude that in Norway some women – who would prefer public day care for their children –
may be “forced” to use the CFC while waiting for an available kindergarten place (Aassve and
Lappegård 2010:155). Because of this, some users of the CFC in Norway may be more work-oriented
than those using the allowance in Finland. This may lead to lower rates of further childbearing among
the users of the allowance in Norway in comparison to Finland as well as to a larger proportion of the
users of the allowance having higher education and income in Norway than in Finland.

To date very little research focusing on the relationship between the use of the child home care
allowance and the timing of fertility has been conducted in Finland (only Vikat 2004). Therefore, it is
an interesting topic worth studying in the Finnish context. Based on the literature and findings
presented here, I hypothesize that the women using the allowance will proceed more likely and more
quickly to further childbearing – second- and third-order births – than those not using the allowance.
Second, I expect the effects of the child home care allowance on the timing of second and third birth to
differ by educational level.

Data and Variables

The name of the data set used in the analysis is Finnish Census Panel (FCP). The data are retrieved
from the Finnish population register and cover the period 1991-2007 with annual information. This
period comprises the years of economic depression and time after that. The data set is compiled and
coded by Statistics Finland for Turku Center of Welfare Research. The data set is based on a 10 per cent
random sample from the population registers which include all individuals who were registered as
living in Finland during the period. The high-quality data derived from administrative registers suffer
less from common problems such as missing data, measurement error, and attrition than common
survey data (Erola, Härkönen, Jäntti 2008:15). Also, using this large-scale data set based on register
data – which is representative of the country’s entire female population – provides a high degree of statistical power in order to show meaningful differences (Vikat 2004:185).

Due to the fact that the child home care allowance is mainly used by women, and because the study measures the relationship between the use of allowance and fertility, the unit of analysis is women. Thus, the population of the study is women aged 19-44 any time between 1993-2007 (cohorts born in 1949-1988). The analytic sample is women who had a first or second birth during this period. The purpose is to compare the transition to second and third birth between those who used the child home care allowance at some point when the previous child was of eligible age and those who did not use it in order to answer the research question: do the users of the child home care allowance have a higher risk to proceed to subsequent childbearing – second and third birth – than those not using the allowance? The focus is on second and third births because the use of child home care allowance is conditional on having at least one child.

The basic time variable measures the duration, time since previous birth. I will get back to this in the method section. The main independent variable is a dummy variable which indicates whether the mother had used the child home care allowance for the previous child while being at risk of second and third birth, respectively. For the second (third) child, the variable is zero as long as the mother did not use the allowance for the first (second) child, and unity from the year the allowance was used. If the allowance was not used by the time the previous child turned three (the upper age limit for usage), the variable took value zero for the entire spell at risk. If the allowance was used, the variable was unity starting from the year is which it was used until the end of the spell at risk. Thus, this variable measures whether the mother had used the benefit (by time t) for the previous child during the eligible years.

Being a time-varying variable on whether the allowance had ever been used during eligibility, this specification differs from one in which the variable would be unity only in the years of actual usage. The latter would assume an immediate fertility effect during the eligible years and is thus
implausible. By making no assumptions on the use during subsequent years, the variable also avoids the pitfalls of anticipatory analysis. The measurement of this variable differs also from the one used by Vikat in that he uses the variable based on any use during a year rather than on any use while the previous child was of eligible age.

A disadvantage of the data set is that it does not include information directly on how many children a woman has nor the exact date (day and month) of the births. However, the data set includes information on the number of children in the household on the last day of each year. Therefore, the number of children for each woman needs to be counted from the number of children in the woman's household. This means inferring a birth occurring only if a new child appears in year N+1, when the child was not there in year N. So, the dependent variable – whether one gets a second or third child or not – will be measured by comparing the number of children in the household in one year to the number of children in the household the previous year. Thus, it is assumed that the woman does not have children outside the household.

There is also information on number of children under three years old in the household each year, and it is rather unlikely that a child under the age of three that was not the woman's own child would live in her household. Only a small proportion, less than 0.5 per cent (European Community Household Panel 1996-2001), of children under the age of 18 do not live with their biological mother in Finland. Because it is such an extremely rare scenario it should not bias the results in any significant way. Therefore, in order to reduce the likelihood of biased results, the analysis will only consider a child under the age of three in the household as the woman's new child, and thus as a new birth. Also, the data do not specify if a child is adopted and therefore, the adopted children are considered as biological children in the analysis. However, due to the relatively low number of adoptions of children
under the age of three in Finland\(^3\), this should not bias the results in a significant way. Also, adopted children are legally one's own children and they are eligible for child home care allowance.

Twins are excluded from the study because it is not possible to identify whether the two children born to a mother within the same calendar year are twins or not. Similarly, several children born to a mother within the same calendar year are not included in the study because one cannot identify the birth order of the children. The age three is also important for this study because the child home care allowance can only be received for a child under the age of three. However, the women will be followed until the end of the time period in order to see if they get a subsequent child even when the previous child is older than three years.

Table 1 shows the number of mothers and person years in the analysis while tables 2 and 3 show the descriptives of the variables. As presented in table 3, most mothers in this study – about 85 per cent and 93 per cent of mothers under the risk of second and third birth respectively – have at some point used the child home care allowance while their previous child was under the age of three. This implies that basically everybody uses the allowance. In this respect, the analysis could also be seen as the effect of not using the allowance.

| Table 1. Personyears and number of mothers in the analysis for second and third birth |
|-----------------------------------|---------|---------|
|                                   | 2nd birth | 3rd birth |
| N mothers                         | 68217    | 39795    |
| N personyears                     | 268594   | 204682   |

Socio-demographic characteristics of mother's age at previous birth, marital status, highest educational level achieved, and calendar year are control variables. These control variables represent factors that may influence both fertility and the use of the child home care allowance. Calendar year is

\(^3\) Approximately 0.001 per cent of children under the age of 4 were adopted in a year in late 1990s and in the beginning of 2000s (OSF 2010a).
measured in years and it is a time-varying covariate, meaning that it changes over the time a woman is at risk of having a second or third child. Age of mother at previous birth is a fixed variable, and it is measured as non-linear, by including linear and quadratic terms of age. The variable indicating a woman's marital status is measured with the values 0 for non-married and 1 as married. Thus, the category non-married comprises single women, those living in a non-marital union as well as divorced and widowed. The values are based on the information from the registers December 31st each year. Therefore, the covariate is time-varying.

<table>
<thead>
<tr>
<th>Use of CHCA</th>
<th>2nd birth</th>
<th>3rd birth</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>15.25</td>
<td>6.84</td>
</tr>
<tr>
<td>Yes</td>
<td>84.75</td>
<td>93.16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Marital status</th>
<th>2nd birth</th>
<th>3rd birth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Married</td>
<td>51.57</td>
<td>32.80</td>
</tr>
<tr>
<td>Married</td>
<td>48.43</td>
<td>67.20</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Highest educational level achieved</th>
<th>2nd child</th>
<th>3rd child</th>
</tr>
</thead>
<tbody>
<tr>
<td>No secondary education</td>
<td>15.41</td>
<td>11.40</td>
</tr>
<tr>
<td>Secondary education</td>
<td>44.27</td>
<td>42.28</td>
</tr>
<tr>
<td>Lower tertiary education</td>
<td>30.31</td>
<td>34.62</td>
</tr>
<tr>
<td>Upper tertiary education</td>
<td>10.01</td>
<td>11.70</td>
</tr>
</tbody>
</table>

Source: Finnish Census Panel

Education is a time-varying variable. Thus, the educational level of a woman for a certain year is the highest education level she has attained by December 31st that year. The measurement of education is based on the variable highest educational level achieved which is classified by Statistics Finland into six main categories: secondary level education, post-secondary non-tertiary education, lower level tertiary education, higher level tertiary education, doctorate or equivalent level tertiary education, and for level of education unknown. The Finnish register has information on all education
levels above compulsory education which is approximately 9-10 years (Vikat 2004:189). Thus, those not classified in any category have no secondary level education.

By dividing the categories – that represent the highest educational level achieved – into four I construct the educational groups that are controlled in the analysis. First, the group classified as “no secondary education” includes those with no secondary education or higher. The second group will be classified as “secondary education”, and it includes secondary education. The third group, classified as “lower tertiary education” includes post-secondary non-tertiary education and lower level tertiary education. The fourth group, “upper tertiary education”, includes higher level tertiary education and doctorate or equivalent level education. This categorization represents the structure of the Finnish educational system (Statistics Finland 2011), and each category includes a large number of women. The abovementioned four groups are used as a control to compare differences in the transition to second and third birth between women with different educational levels and also in interaction to look at differences.

**Method**

A discrete-time event-history analysis is applied in estimating the risk of a second and third birth for the users of the child home care allowance in comparison to those not using the allowance. Discrete-time is applied because time is measured in years (Allison 1984). The hazard in discrete time is the conditional probability that an event – in this case the annual probability of the birth of the second or third child – will be experienced at a certain time by a certain individual, given that it has not yet happened to the individual. I assume the hazard rate to vary with a mother's use of child home care allowance and the educational attainment of the mother. The annual probabilities are combined in a way that allows women to contribute to the risk each year, and then be removed from the risk pool after
childbirth.

The analysis is conducted separately for second and third birth. Because I know from previous research that the patterns of fertility differ by parity, the models for second and third births are counted separately. Thus, there are two time processes: transition to second birth and transition to third birth. For the former the basic time variable is time since first birth, time starts at first birth for a woman aged 19-44 years and stops at the event – second birth. Censoring occurs either at the age of 45, death, emigration or in the end of 2007, whichever comes first. For the latter the basic time variable is time since second birth, time starts at second birth for a woman aged 20-44 years and stops at the event – third birth – or censoring as mentioned previously.

Because only women aged 18-44 are included in the study and because the calculation of subsequent children in this study is based on the information – number of children in the household – in the previous year a woman has to be at least 19 years old for her second child to be included in the analysis. According to this scenario a woman would have given birth to her first child when she was aged 18 in the previous year and then had her second child a year after when she turns 19. Thus, in order for a birth to be counted in this study the birth must have occurred after the year the woman turned 18. Therefore, in the study, the minimum age of mother having a third child is 20 (or, in fact, the year the woman turns 20). This is because in order for the third child to be counted in the analysis a woman must have had both her second and third child after turning 18: for instance, in the earliest scenario, the first child was born the year the mother turned 18, the second child the year the mother turned 19, and the third child the year the woman turned 20. For the analysis, I changed the age by reducing 18 years from the age of the mother thereby making the age start at age 0.

I fitted four main models to analyze the transitions to second and third birth. Model 1 includes year dummies since the birth of the previous child and use of child home care allowance. It is applied mainly to see if there are differences in the risk of birth between the two groups – mothers not using the
allowance and mothers using the allowance while the previous child was under the age of three – but also to see the timing of birth since the previous child. Model 2 includes years since the birth of the previous child, use of child home care allowance, age and age\(^2\) of the mother at previous birth, marital status, highest educational level achieved, and calendar year. Model 2 is used in order to control age, marital status, educational level and calendar year. The aim is to see if the differences in the risks of birth between the groups are due to these control variables.

Model 3 is the same as model 2 but it also includes an interaction between years since the birth of the previous child and use of child home care allowance. Model 3 is applied in other to see if the groups differ in the timing of the next birth and, therefore, it provides more information regarding the timing question. Therefore, model 3 examines the interaction, and if are there systematic differences in the timing of next birth. Model 4 is the same as model 2 but it also includes an interaction between the use of the child home care allowance and highest education level achieved. It gives more information on the educational effects on subsequent childbearing by allowance use.

By using the these models I examine whether there are differences in the transition to second and third birth between those using the child home care allowance and those not using it. Due to the large size of the data set a considerable part of the estimates becomes significant. For this reason I only show the significance of the estimates if they are significant at the level below 1 per cent.

Results

The risk of having a second child is higher than having a third child. This is to say that a larger share of women having a second child than a third child. Women using the child home care allowance have a higher risk of having a second and a third child than women not using the allowance. The gap between those using the allowance and those not using it remains throughout the years, as shown in the Kaplan-
Meier survival estimates in figures 2 and 3. These findings differ from Vikat’s (2004) results, and I will return to this in the discussion.

Table 4 shows the odds ratios of birth separately for second and third birth. I show the baseline odds in the table in order to better explain the concept of odds in this analysis. Comparing the risk of birth with the baseline odds provides a clearer picture of the magnitude of the risk (Buis 2012:166). Thus, the baseline helps to explain how high is the risk of birth in the baseline, meaning the reference
group, which is women not having used the child home care allowance in the first year after having their previous child. Other estimates show the multiplicity of how much lower or higher the risk is when comparing for instance those using the allowance or being in the second year. In model 1 for the second child the baseline odds show that for each woman not having used the child home care allowance (the reference group), there were 0.08 women who had a second child during the first year after first childbirth; it means an approximately 8 per cent probability of a second birth during that year. Among those who had used the allowance, the odds were 1.9 times higher. Thus, when the odds for having a child in a certain year is 0.08, which means a probability of ~8 per cent to get a child, then it is 1.9 times ~8 per cent is ~15 per cent for the users. The odds for a second birth during the second year were 2.9 times higher, they were 2.6 times higher during the third year after the first child (conditional on not having had the child before).

In regard to the timing of second birth the same pattern is maintained in model 2 as in model 1. Also the effect of the child home care allowance on the risk of second birth remains the same. As model 2 shows, the age of the mother at first birth is found to increase the risk of having a second child. However, the risk does not increase linearly. Rather, at first the effect of the mother's age is first positive (>1), then it levels out, and becomes negative (age$^2$ <1). When it comes to the marital status, as may be assumed, there is a clear difference between married and unmarried mothers. Married women have approximately 2.3 times as high a risk of having a second child as currently unmarried women. In regard to the highest education level achieved, the risk of having a second child increases with education. Thus, there is a positive gradient between education and the risk of having a second child: women with upper tertiary education, which is the highest educational category, have approximately 50 per cent higher risk of having a second child than women with no secondary education, which is the lowest educational category. This is contrary to what may be expected based on the theories presented in the literature review section.
In model 3, the same pattern regarding the timing of second child is maintained as in models 1 and 2. Yet, according to model 3 mothers having used the child home care allowance have only 25 per cent higher risk of having a second child in the first year following the birth of the first child. Also, as model 3 shows, women using the allowance have a higher risk of having a second child each year (up to the seventh year) after having their first child than those not using the allowance. So, at the lowest – in the first year following child birth – the risk is 25 per cent higher for women who had used the allowance than for women not having used the allowance, and at the highest – in the sixth year – the risk is twice as high as the risk for those not having used the allowance.

The risk of having a third child in model 1 follows the same pattern as for the second child. As for the second child, also for the third child the risk of birth is highest in the second year after having the previous child and then the risk decreases with time. There is also a clear difference in the risk of third child between women using the child home care allowance and women not using it: women using the allowance while their second child was under the age of three have approximately 1.8 times as high a risk of having a third child as those not having used the allowance.

In model 2 a similar pattern regarding the timing of the third child is maintained as in model 1. Also the difference between mothers using the allowance and not using it remains in model 2. Model 2 shows that, unlike for the second child, the age of the mother at previous birth decreases the risk of having a third child linearly: The older the mother is when having her second child the lower is the risk for her to have a third child. When it comes to marital status the pattern is similar for the third child but not as strong as for the second child. In fact, married women are found to have approximately 75 per cent higher risk of having a third child than currently unmarried women. In regard to the highest education level achieved and the risk of the third child the pattern differs from the one for the second child. The risk of having a third child is highest – 10 per cent higher than for the lowest educational category – for the most educated women, meaning those with upper tertiary education. Also, women
with secondary education and lower tertiary education have about 2 and 3 per cent lower risks of having a third child, respectively, than women with no secondary education.

In model 3, the same pattern is maintained with the exception of the sixth year when the risk is slightly higher than in the fifth year for those not using the allowance. However, in contrast to models 1 and 2 and to the second child, according to model 3 those using the child home care allowance have only 5 per cent higher risk in the first year following the birth of the second child. Also, as for the second child, women using the allowance have a higher risk of having a third child each year (up to the seventh year) after having their second child than those not using the allowance. At lowest – in the seventh year – the risk of having a third child is 60 per cent higher (not significant) for women who used the allowance than for women not using the allowance, and at highest – in the fifth year – the risk is more than twice as high as for those not using the allowance.

I ran the goodness of fit test, as shown in table 5. According to the test both models 3 and 4 give an improved fit (p<0.01) from model 2. This means that it is good to add the interaction between years since the birth of the previous child and use of child home care allowance as well as the interaction between the highest educational level achieved and allowance use.

| Table 5. Goodness of fit test for models 3 and 4 from table 5 |
|-----------------------------|-----------------------------|
|                            | Second birth                | Third birth                |
|                            | LR test $\chi^2$ | df | p  | LR test $\chi^2$ | Df | p  |
| Model 3 vs. model 2        | 186.41         | 6  | 0.000 | 44.97         | 6  | 0.000 |
| Model 4 vs. model 2        | 14.12          | 3  | 0.003 | 12.91         | 3  | 0.005 |

Source: Finnish Census Panel
Notes: Own calculations
Figures 4 and 5 illustrate the interaction between the years since the previous birth and the use of the child home care allowance from model 3. The predicted odds presented in the figures are calculated by using women not using the allowance as the baseline. For example for third birth in the second year since the previous birth for those not using the allowance the predicted odds – 0.137 – is calculated by multiplying the baseline – 0.131 – with the estimate for the second year since the previous birth – 1.048. The figures illustrate how the risk of birth for second and third births increases up to two years since the previous birth and starts to decrease after it as time passes. The figures show that not using the allowance signals stopping behavior, also at longer durations.

Model 4 shows the results of the interaction between education and the use of the allowance. In
general, the effect of the allowance use on second and third births was weaker the higher was the woman’s educational attainment, as illustrated in figures 6 and 7. For women with the highest educational level, the effect is even absent (second births) or reversed (third births). As assumed based on previous research, women with the lowest education – those with no secondary education – who use the allowance have the highest risk of second and especially of third birth. The predicted odds presented in figures 6 and 7 are calculated – as those in figures 4 and 5 – by using women not having used the allowance as the baseline. For example for second birth for women with lower tertiary education using the allowance the predicted odds – 0.084 – is calculated by multiplying the estimate for the interaction of allowance use and lower tertiary education – 0.890 – with the predicted odds for women with no secondary education using the allowance – 0.094 – that is shown in figure 6.
In summary, the main results for the second and third child are rather similar in that they show the use of the child home care allowance to have an effect on the risk of child birth and that the users of the allowance are more likely to have a second and a third child. The results also reveal, as shown in figures 4 and 5, that timing matters: there are differences in how soon women get their subsequent child and not only whether they get a second and third child at all. In conclusion, the two groups – those using the allowance and those not using it – differ also in the timing of second as well as of third birth, and the control variables do not explain these differences. To save space, estimates for calendar year are not shown here but they are presented separately in table A1 in the Appendix. There are no considerable variations in the risks of second and third birth by calendar year and, therefore, no clear period trends.
Discussion

Cash-for-care benefits have been a debated topic in Finnish politics since the second half of the 20th century. One of the main criticisms against the child home care allowance is the argument that it strengthens traditional gender roles. This is to say that it encourages women to stay at home and thereby decreases their labour force participation. Because of the decreased labour participation of women, due to the use of child home care allowance, the allowance has often been criticized of being a woman trap (Aassve and Lappegård 2009; Sipilä et al 2010).

In case women using the child home care allowance actually, as the evidence presented in this paper suggests, get their next child within a shorter time than those not using it, the allowance may actually serve as a “trap” – even in a greater extent than if they did not get their subsequent child as soon – for the women staying at home receiving the allowance. If a woman using the child home care allowance gets another child right before or after her previous child turns three years and then uses the allowance for the newborn child after the parental leave until the child turns three years she might stay out of the labor market for six years in a row. Such a long absence is very likely to have a negative impact on the working skills and the social capital of the woman, as well as her attractiveness on the labor market. This would probably influence her re-employment and career advancement prospects. Moreover, in reality, regardless of the undoubted values to family time and the care from parents to their children, family time – when using the child home care allowance – can represent overburden on and isolation of mothers, division of labor based on gender, the exclusion of children from early childhood education, the exclusion of mothers from the labor market and life in poverty (Sipilä et al 2010:60).

It can also be argued that the means-tested part of the child home care allowance serves as an
economic incentive for families with low income to use the allowance instead of daycare services (Sipilä et al. 2010:48). Thus, as mentioned earlier, mothers with low income and low education – because low education is often, but not always, linked to low earnings – are more likely to choose to take up the allowance. As according to previous research in Nordic countries women with lower income have lower fertility, one may expect those low-income women who have children to possess more traditional family-centered values and be therefore more prone to choose to stay home and to use the allowance in Finland as well. Moreover, if these women have more traditional family values they may be assumed to be more likely to proceed to further childbearing sooner than the low-income mothers not using the allowance. In contrast to these assumptions, according to the results from my analysis, women with the highest educational level have the highest risk of having a second and third birth.

The results from this study support the hypothesis that women using the child home care allowance have a higher risk of having a second and third birth and that they have their second and third birth sooner after the previous birth than those not using the allowance. I found that the timing matters: for the risk of second birth the difference between those using the allowance and those not using is greatest in the second year since the first birth and probably decreases after it, while for the risk of third birth the difference between the users and the nonusers increases even after this and is the greatest in the fifth year. This differs from Vikat’s (2004) findings in that he found the use of the allowance to be related only to a higher risk of third birth.

As mentioned earlier, Vikat included income in his analysis, studied partly a different time period, and used different variables as well as data than this study. These factors may explain why Vikat got the results he did, and why his results differ from this study. Also, Vikat looked at women whose youngest child is at least 28-29 months old. By starting to follow the risk of subsequent birth more than two years after the previous birth – which is when the difference in the risk of second birth
between the users and nonusers is the greatest, and starts to decrease, according to my results – may partially explain why Vikat’s results differ from mine. If he looked at the risk of subsequent birth sooner after the previous birth his results might have been somewhat different.

According to the findings by Aassve and Lappegård (2009) it seems that the allowance does not affect everybody similarly and that there is heterogeneity in the responses. Also, the findings by Aassve and Lappegård (2009) indicate that the use of the CFC is positively related to birth timing, in particular to proceeding to second birth within two years following the first birth. This positive relationship between the allowance use and second birth is in line with the results from my analysis but differs from Vikat’s findings on Finland. Moreover, for the education interaction I followed Aassve and Lappegård (2010). Also the results I found are similar to those by Aassve and Lappegård (2010) – the effects of the allowance use were weaker or even absent among women with higher education.

Whether or not the child home care allowance policy increases fertility in Finland is an interesting question. However, I cannot not answer the question whether the system of child home care allowance itself influences fertility or whether the groups – those using the allowance and those not using it – differ in some way from each other. Although I found in model 2 that differences in measured characteristics between the groups do not explain the observed differences in fertility, a selection effect may exist. Based on the findings from this and other studies it seems that women not using the allowance may be a selected group. There may also be other variables – such as profession, income, career orientation, and employment history – that affect childbearing decisions and outcomes. The aforementioned variables are not included in the analysis because the data set only includes these variables in some years, and also because for instance professions may change from year to year, which – if used here – could lead to anticipatory analysis if measured only in the end of my study period. If the data set included monthly information on income I could have measured the mothers’ income before giving birth.
It is important to note the restrictions of this study. By not being able to include the variables mentioned above, the study cannot prove any kind of causality. Another restriction is that the data set used is not perfect for this study. As mentioned earlier, there was no information directly on how many children a woman has and the parity of the new child. Instead, these had to be inferred from the data. Also, with the data set I could not study how long a mother used the allowance and what effect would the length of the use have on subsequent childbearing. These are questions that would be interesting to study further.

In future research it would be interesting to study mothers who used the child home care allowance for both their first and second child as well as the duration of the allowance use. These factors could give more insight into how devoted the mothers are in terms of prioritizing family life and if the allowance was used to the spacing of subsequent childbirth. However, the data set used for this study does not include enough information for these purposes.

Previous research does not indicate that the introduction of child home care allowance would have an increasing effect on fertility. But Vikat (2004) suggests that the allowance may have decreased the economic impact related to unemployment and, therefore, reduced the influence of the recession on fertility behavior in Finland. Also, no discernible effect of roller-coaster economic cycles on fertility was found in Finland (Vikat 2004) in contrast to Sweden where a pro-cyclical pattern of fertility with a positive relationship between women's earnings and childbearing levels was found by Andersson (2000). Finland is a state very similar to Sweden when it comes to welfare, although the organization of parental leave does not include the same strong emphasis on income replacement as the Swedish system (Andersson 2000:323).

All the research from Nordic countries presented here illustrates the importance of considering institutional factors – social policies – and economic development in studying fertility trends. Also, a study on Sweden finds that women with relatively low income as well as women enrolled in education
tend to have lower fertility in comparison to other women (Andersson 2000:293). “The positive relationship between earnings and entry into motherhood may seem to contradict the notion that women who command a higher wage have lower childbearing risks because of the high opportunity cost of childbearing, which is an argument stemming from economic theory” (Vikat 2004:201). It appears that, in the Nordic countries, the wage rate or earnings of women does not depict economic opportunity costs as in other countries, especially due to the amount of the compensation received during parental leave is measured as a large share of the earnings as well as the availability of public childcare (Vikat 2004:201).

Thus, according to Vikat (2004), women's childbearing plans were not significantly impacted by the recession. He proposes two reasons for this. First, believing in an economic recuperation that would begin soon most likely affected the perception of the future economic prospects when women were planning their childbearing (Vikat 2004:204). Second, while Finland managed to maintain the essential features of the welfare state during the recession – regardless of reductions in some areas – the perception of the economic downturn as a passing phenomenon may have encouraged some women to take a break from employment exactly during the time when chances for working career progress were unfavorable, perhaps also considering the option of prolonged leave for childcare connected to the child home care allowance (Vikat 2004:204). Thus, in future research it would be interesting to study the impact of the allowance on the differences in the fertility trends between Finland and Sweden.

This said, child home care allowance may have causal effects on fertility. As mentioned by Aassve and Lappegård (2010), by using the allowance a mother can stay home longer, and there are clear differences in the risks of having a second and third child after second and third year since the birth of the previous child between those using the allowance and those not using it. Thus, as my results also imply but cannot prove, the use of the child home care allowance may have a causal effect on the timing of second and third birth. Also, a long absence from labor market may decrease one's career
prospects which could – by decreasing the opportunity costs of childbearing – make the effects of the allowance use on childbearing more long-term. This is to say that the effects of the allowance on fertility may exist even after the youngest child has turned three years, as shown by the results from this study.

In conclusion, even though the child home care allowance is criticized, it does provide many parents with more flexibility in combining the kind of family life and work life they prefer. It is, after all, an opportunity the welfare state offers and it is up to the parents to choose whether to use the allowance or not. As illustrated in this paper, the child home care allowance – as most welfare state policies – have both its positive and negative aspects.

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References


Vikat, Andres. “Women’s labor-force attachment and childbearing in Finland.” in Gunnar Andersson and Gerda Neyer (eds.), Contemporary Research on European Fertility: 45
## Appendix

Table A1. Estimates for calendar year for models 2, 3, and 4 in table 5.

<table>
<thead>
<tr>
<th>Calendar year</th>
<th>Second birth</th>
<th>Third birth</th>
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<tbody>
<tr>
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<td>Model 3</td>
</tr>
<tr>
<td>1993</td>
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<tr>
<td>1994</td>
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<td><strong>Baseline odds</strong></td>
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</table>

*Source*: Finnish Census Panel

*Notes*: Own calculations

* p<0.01

** p<0.001